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EXAMINER

GHULAMALI, QUTBUDDIN

ART UNIT

PAPER NUMBER

2611

NOTIFICATION DATE

DELIVERY MODE

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ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

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Office Action Summary	Application No. 09/777,203	Applicant(s) SCHMIDL ET AL.	
	Examiner QUTBUDDIN GHULAMALI	Art Unit 2611	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 28 November 2011.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ An election was made by the applicant in response to a restriction requirement set forth during the interview on ____; the restriction requirement and election have been incorporated into this action.
- 4) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 5) ☒ Claim(s) 10-22 and 33-51 is/are pending in the application.
- 5a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 6) ☒ Claim(s) 16-22 is/are allowed.
- 7) ☐ Claim(s) 10-15, 33-51 is/are rejected.
- 8) ☐ Claim(s) ____ is/are objected to.
- 9) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 10) ☐ The specification is objected to by the Examiner.
- 11) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 12) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. ____. |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date ____. | 6) <input type="checkbox"/> Other: ____. |

DETAILED ACTION

1. This action is responsive to amendment filed 11/28/2011.

Response to Remarks/Amendment

2. Applicant's remarks, see page 10-14, filed 11/28/2011, with respect to the rejection(s) of claim(s) 10-15 and 33-51 have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection is made in view those remarks.

With reference to applicant's remarks regarding claims 42-51 on page 11-12, the remarks are addressed by the examiner in the rejection that follows specifically applicant's concerns regarding examiner failed to address the issue of first method and a second method to communicate with the receiver. The examiner further adds that in the communication art to implement conflict avoidance schemes handling a plurality of wireless technologies that provide signal cancellation schemes to avoid interference. For instance, in a single system including both an 802.11b and a Bluetooth transceiver, the system coordinates transmissions at the MAC level through a mode switch. The mode switch operation is based upon lower-layer procedures such as beacon reception (for 802.11b) or paging (for Bluetooth), or by interleaving packets. For instance, a network interface card (NIC) can potentially support both Bluetooth (BT) and 802.11 in which case the NIC can determine when either of the two competing/interfering technologies is being used and stops the other transmission until the first is done. If there are two NICs, one for Bluetooth and one for 802.11, the two NICs could potentially be hardwired to each other so that one can determine when the other is transmitting

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and stop its own transmissions. Alternatively, a notification about a transmission can potentially be provided by one driver to another, for instance the Bluetooth driver or the 802.11 driver potentially provides a callable interface that would be used by the other driver to provide notification of a transmission. The mode switches or arbitrates between 802.11b Bluetooth traffic.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103 (a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 10-15, 33-41 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mantha et al (USP 7,000,174) in view of Awater (USP 7,046,649).

Regarding claim 10, Mantha discloses a data communication apparatus (device) (col. 4, lines 15-19), comprising:

an input for receiving (implied with receiver to receive input) original data bits that are to be transmitted via a communication channel (communication medium; col. 4, lines 49-56) to another data communication apparatus (remote device) (col. 4, lines 15-30, 38-56);

an encoder coupled to said input for applying to the original data bits an encoding algorithm (encoding technique) that produces parity bits (col. 3, lines 56-67; col. 4, lines 1-30);

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an output for providing bits that are to be transmitted across the communication channel (col. 4, lines 26-30); and

a data path coupled between said encoder and said output, said data path receiving information from said another data communication apparatus (receiver), said data path selecting one of the original data bits with CRC bits and parity bits in response to a first information (initial information) (col. 16, lines 61-65), data path selecting the other of the original data bits with CRC bits and parity bits in response to a second information to be provided to out for transmission across communication channel (communication medium) to another data communication apparatus (remote device or receiver) (col. 16, lines 61-65; col. 17, lines 11-55; col. 18, lines 25-53).

Mantha does not expressly disclose a controller arranged to establish communication in a first mode with another data communication apparatus, to switch communication in a second mode with said another data communication apparatus after communication is established.

Awater, in a similar field of endeavor however, discloses establishing communication in a first mode with another data communication apparatus (receiving) end and switch to communication in a second mode with said another data communication apparatus (receiver) after communication is established (Awater discloses this feature, for instance, the device (106, fig. 1 and 2) utilizes both the first mode (IEEE 802.11) and a second mode (Bluetooth) in communicating with the transceiver by switching either of the modes based on user (receiver) preference, the user is the same user that the device 106 communicates with, the device 106 is

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adapted to make the decision as to which mode of operation to switch to when communicating with that user or device or receiver) (col. 6, lines 34-67; col. 7, lines 1-5). It would have been obvious to one of ordinary skill in the art at the time of invention was made to utilize switching as taught by Awater to switch modes of operation in communicating with a transmitting or receiving device with Mantha so as to minimize or mitigate interference of one signal with the other when communicating with a remote user receiver. One of ordinary skill in the art would be motivated to do so to provide communication with devices with least amount of error in data transmission and reception.

Regarding claim 11, Mantha discloses data path includes a buffer coupled to said encoder for storing the original data bits and the parity bits (col. 4, lines 7-14).

Regarding claim 12, Mantha discloses data path includes a selector (controller) coupled between said buffer and said output, said selector responsive to said information for obtaining one of the original data bits with CRC bits and the parity bits from said buffer to be provided to said output for transmission to said another data communication apparatus (col. 4, lines 7-14).

Regarding claim 13, Mantha discloses a first information includes an acknowledgement (ACK) that the information received correctly a second information includes negative acknowledgement indicating that an earlier transmission has not been received correctly at said another communication apparatus, said data path responsive to the negative acknowledgement for changing its selection from one of the original data

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bits and the overhead bits to the other of the original data bits and the overhead bits
(col. 15, lines 29-61)

Regarding claim 14, Mantha discloses a wireless communication apparatus (col. 29, lines 15-20).

Regarding claims 15, Mantha discloses a convolutional encoder (see figs. 2, 4).
(Note, use and practice of using convolutional encoding algorithm are commonly well known in the art).

Regarding claim 33, Mantha discloses a method of communicating data from a transmitter end to a receiving end, comprising:
the transmitter end applying to a plurality of original data bits that are to be transmitted to the receiving end an encoding algorithm that produces CRC bits and parity bits (col. 2, lines 46-47; col. 4, lines 15-30);
transmitting the original data bits with the CRC bits to the remote receiver without the parity bits in a first transmission (an initial operation shows information (data) bits and CRC bits transmission (col. 2, lines 45-46; col. 16, lines 43-44);
the transmitter refrains that is no parity bits sent, until receiving an indication that the original data bits have not been correctly received (subsequent retransmission with parity bits as requested indicates receiver did not receive data correctly and hence the transmitter retransmits data along with the parity bits) (col. 2, lines 46-50).

Mantha does not expressly disclose,
establishing communication in a first mode with the transmitting (receiving) end;

switching to a second mode of communication with the transmitting (receiving) after the communication is established.

Awater, however, discloses establishing communication in a first mode with the transmitting (receiving) end and switching to a second mode of communication with the transmitting end after communication is established (Awater discloses this feature for instance, the device (106, fig. 1 and 2) utilizes both the first mode (IEEE 802.11) and a second mode (Bluetooth) in communicating with the transceiver by switching either of the modes based on user (receiver) preference, the user is the same user that the device 106 communicates with, the device 106 is adapted to make the decision as to which mode of operation to switch to when communicating with that user or device or receiver) (col. 6, lines 34-67; col. 7, lines 1-5). It would have been obvious to one of ordinary skill in the art at the time of invention was made to utilize switching as taught by Awater to switch modes of operation in communicating with a transmitting or receiving device with Mantha so as to minimize or mitigate interference of one signal with the other when communicating with a remote user receiver. One of ordinary skill in the art would be motivated to do so to provide communication with devices with least amount of error in data transmission and reception.

Regarding claim 34, the claim is not further limiting claim 33, and having same or similar limitations as recited in claim 33, is likewise rejected.

Regarding claims 35, 39, Mantha discloses substantially all limitations of the claim above. Mantha further discloses, receiving end combining a received version of the original data bits and a received version of the parity bits to produce a combined set

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of received bits and the receiving end applying to the combined set of received bits a decoding algorithm that corresponds to said encoding (col. 17, lines 56-67; col. 18, lines 1-11).

Regarding claim 36, the limitation recited is substantially similar to limitation recited with claims 48 and 51 as noted below is treated and rejected likewise.

Regarding claim 37, Mantha discloses decoder is a Viterbi decoder (col. 10, lines 3-64) (Note, as best understood by the examiner, Viterbi decoder for decoding is conventionally well known in the art).

Regarding claim 38, the limitation recited is substantially similar to limitation recited with claim 49 as noted below is treated and rejected likewise.

Regarding claim 40, Mantha discloses a method of communicating data from a transmitting end to a receiving end, comprising:

the receiving end receiving from the transmitting end a first (initial) transmission including data bits and CRC bits without the parity bits (col. 2, lines 45-46; col. 16, lines 43-44) produced at the transmitting end by operation of an encoding algorithm applied to the original data bits (encoding of data is implicitly implied and commonly well known in the communication field) (col. 1, lines 63-65; col. 2, lines 44-46);

the receiving end determining whether the original data bits have been received correctly in response to the CRC bits and, responsive to a determination that the original data bits have not been received correctly, the receiving end transmitting to the transmitting end a request for transmission of the parity bits (it obviously implies with retransmission request the transmitting side include parity bits once the receiver

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indicates encountering incorrect reception and hence the transmitter retransmits with parity bits combined with previously received symbols) (col. 2, lines 47-50).

Mantha does not expressly disclose, establishing communication in a first mode with the transmitting (receiving) end; switching to a second mode of communication with the transmitting (receiving) after the communication is established.

Awater, however, discloses establishing communication in a first mode with the transmitting (receiving) end and switching to a second mode of communication with the transmitting end after communication is established (Awater discloses this feature for instance, the device (106, fig. 1 and 2) utilizes both the first mode (IEEE 802.11) and a second mode (Bluetooth) in communicating with the transceiver by switching either of the modes based on user (receiver) preference, the user is the same user that the device 106 communicates with, the device 106 is adapted to make the decision as to which mode of operation to switch to when communicating with that user or device or receiver) (col. 6, lines 34-67; col. 7, lines 1-5). It would have been obvious to one of ordinary skill in the art at the time of invention was made to utilize switching as taught by Awater to switch modes of operation in communicating with a transmitting or receiving device with Mantha so as to minimize or mitigate interference of one signal with the other when communicating with a remote user receiver. One of ordinary skill in the art would be motivated to do so to provide communication with devices with least amount of error in data transmission and reception.

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Regarding claim 41, Mantha discloses a convolutional encoder (see figs. 2, 4).
(Note, use and practice of convolutional encoding algorithm are commonly well known in the art).

Claim Rejections - 35 USC § 102

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

6. Claims 42-51, are rejected under 35 U.S.C. 102 (e) as being anticipated by Mantha et al (USP 7,000,174).

Regarding claims 42, 45 and 46, Mantha discloses a method of transmitting and receiving data comprising:

encoding data by a first method to establish communications with a remote receiver

(Mantha discloses, data is encoded initially, that is as a first step say step A as the

applicant remarks, see page 11-12, or a first method for transmission of initially

encoded data bits and CRC bits [examiner notes that encoding or decoding of data for

transmission is considered basic and commonly well known in the art of

communications], (col. 1, lines 63-65; col. 2, lines 44-46);

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encoding data by a second method to communicate with the remote receiver after communication is established (col. 2, lines 46-47) (the second method or step B as the applicant remarks, see page 11-12, involves or entails inclusion of parity bits that is transmitted after the communication with a remote receiver occurs);

applying an encoding algorithm that produces parity bits to a plurality of original data bits that are to be transmitted (col. 2, lines 46-47);

transmitting the original data bits with the CRC bits to the remote receiver without the parity bits in a first transmission (an initial operation shows information (data) bits and CRC bits transmission (col. 2, lines 45-46);

the transmitter refrains that is no parity bits sent, until receiving an indication that the original data bits have not been correctly received (subsequent retransmission with parity bits as requested indicates receiver did not receive data correctly and hence the transmitter retransmits data along with the parity bits) (col. 2, lines 46-50).

Regarding claim 43, the claim is not further limiting claim 42, and having same or similar limitations as recited in claim 42, is likewise rejected.

Regarding claim 44 Mantha discloses decoder is a Viterbi decoder (col. 10, lines 3-64) (Note, as best understood by the examiner, Viterbi decoder for decoding is conventionally well known in the art).

Regarding claim 47, Mantha discloses a convolutional encoder (see figs. 2, 4). (Note, use and practice of using convolutional encoding algorithm are commonly well known in the art).

Regarding claim 48, Mantha discloses all limitations of the claim above. Mantha further discloses, receiving end combining a received version of the original data bits and a received version of the parity bits to produce a combined set of received bits and the receiving end applying to the combined set of received bits a decoding algorithm that corresponds to said encoding (col. 2, lines 29-40; col. 17, lines 56-67; col. 18, lines 1-11).

Regarding claims 49, 50, 51 Mantha discloses a decoder (fig. 6, element 64a, 64b) applying a CRC error detection procedure to the decoded data bit (as disclosed in the background of applicant's prior art (col. 2, lines 42-50); determining the decoded data bits are not the same as the original data bits in response applying a decoding algorithm that corresponds to encoding algorithm to the combined set of received bits to produce decoded data bits (col. 2, lines 48-57); and transmitting a request for retransmission of the original data bits in response to decoding of data bits (col. 2, lines 46-47).

Allowable Subject Matter

7. Claims 16-22 allowed.

Conclusion

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to QUTBUDDIN GHULAMALI whose telephone number is (571)272-3014. The examiner can normally be reached on Monday-Friday, 7:00AM - 4:30PM.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chieh M. Fan can be reached on (571) 272-3042. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

QG.
January 25, 2012.

/KENNETH LAM/
Primary Examiner, Art Unit 2611